

### Early Results of Medicare's Bundled Payment Initiative for a 90-Day Total Joint Arthroplasty Episode of Care

#### Take Away Point

- Preliminary findings from the implementation of a Bundled Payment for Care Improvement (BPCI) Model 2 intervention that consisted of care coordination and standardization of clinical pathways suggest potential cost-savings, reduced length of hospital stay (LOS) and reduced discharge to inpatient facilities.

#### The Issue

By rewarding volume of service delivery, the prevailing fee-for-service payment model hinders quality and care coordination across multiple providers, contributes to fragmented care, and is a driver of rising healthcare costs. To overcome these challenges, the Affordable Care Act authorized CMS to develop and test alternative payment models, including the Bundled Payment for Care Improvement (BPCI) initiative. The BPCI consisted of four models with variations in the duration and types of services covered. For example, BPCI Model 2 is an episode based retrospective bundled payment model that covers acute care from hospitalization up to 120 days after discharge. Medicare still pays providers using the standard fee-for-service method. However, Medicare and the participating hospitals establish a target price for a defined episode of care using the hospitals' historic data. Medicare rewards the hospital if total payments were less than the target price. Hospitals with costs above the target price are required to repay CMS the difference. (Interested readers should see <https://innovation.cms.gov/initiatives/bundled-payments/> for more on the BPCI program).

#### Source

Iorio R, Clair AJ, Inneh IA, Slover JD, Bosco JA & Zuckerman JD (2015). Early Results of Medicare's Bundled Payment Initiative for a 90-Day Total Joint Arthroplasty Episode of Care. *The Journal of Arthroplasty*. (Article in Press).  
[http://www.arthroplastyjournal.org/article/S0883-403\(15\)00804-9/pdf](http://www.arthroplastyjournal.org/article/S0883-403(15)00804-9/pdf)

This study reports on early findings from a large, academic, tertiary, urban medical center that participated in a BPCI (model 2) program for Total Joint Arthroplasty (TJA). The program covered the costs incurred 72 hours before admission and all inpatient and all post-acute care for 90 days after discharge including physicians' services, care by postacute providers, readmissions, laboratory services, durable medical equipment, prosthetics, orthotics, and supplies.

#### Study Methods and Design

Data collection began on January 1, 2013 and included measures of financial and quality performance for all Medicare beneficiaries admitted under DRGs 469 and 470. After one year, data on 721 Medicare primary TJA patients were available for analysis. The authors employed descriptive statistics (e.g., means, frequencies and percentages) to summarize patient and hospital information from CMS claims data and electronic medical records. The variables examined included LOS, cost of care, discharge dispositions, and readmission rates.

The BPCI intervention implemented at this hospital consisted of:

- Evidence-based episodic clinical pathways standardization including alignment of anesthesia, preadmission testing, and medical clearance processes to minimize cancellations; elimination of unnecessary testing (e.g., preoperative urinalysis unless patients were symptomatic); reducing the use of general anesthesia; administering analgesia protocols and periarticular intraoperative anesthesia injections to control pain and enhance early mobilization; etc.
- Establishing care coordination infrastructure including the use of a dashboard in the electronic health record. The goal of the dashboard was to facilitate communication among caregivers and use during daily interdisciplinary rounds to discuss patient progress toward discharge; real-time email triggers when patients deviated from pathway and potential solutions; hiring 5 clinical care coordinators to manage the entire episode of care; etc.

### Key Findings and Limitations

- CMS claims data indicate that the institution reduced costs to Medicare by up to 10% when compared to the baseline period although this calculation *did not factor in the cost of implementing BPCI at this organization*. Surgeons who contributed to the savings will be rewarded with a gain-sharing bonus.
- Between 2012 and April 2015, *average LOS decreased from 4.27 days in 2012 to 3.53 days (median, 3 days) to April 2015*—when the medically complex TJA, and hip fracture patients were excluded from the analysis, the LOS decreased to 3.37 days.
- Discharge to inpatient facilities decreased from 65% in 2012 to 38% December 2013.
- Eighty patients (11%) have required readmission compared to 17% in 2011 and 15% in 2009. Of these eighty patients, 7% were readmitted at 30 days, 11% at 60 days, and 13% at 90 days after discharge. Moreover, readmission rates also varied by discharge destinations—15% of patients discharged to home/self-care were readmitted; 8% of patients discharged to home with home health agency services; 15% of patients discharged to SAR facilities; and 10% of patients discharged to inpatient rehabilitation facilities were readmitted to the hospital. Taken together, readmission was more common among patients discharged to facility-based settings (13.7%) than those discharged to self-care or home health services (9%).
- Limitations: Study used data from a single organization hence limited in its generalizability. Also, the reported savings may not be accurate as the other accruing costs have not been reconciled.

*“Models that challenge the traditional fee-for-service paradigm such as the episode-based payment described in this manuscript can help to improve care through aligned economic incentives, which prioritize quality and cost-effective care.”*

### Final Thoughts

- Given that the proposed [Comprehensive Care for Joint Replacement](#) (CCJR) rule is based on the BPCI, CMS would achieve its goals by emphasizing care coordination.
- Importantly, it is not clear if the reported findings were due to participation in the BPCI or the standardized inpatient pathway. Any hospital that implemented such a carefully planned and implemented clinical pathway could have reported similar findings without participating in the BPCI. It is also unclear whether one or both of the elements of the intervention (i.e., standardization of clinical pathway and care coordination) contributed equally to the results. Although the study presented here is in its preliminary stage, CMS will hopefully develop and encourage rigorous evaluation methods to identify the core program components that result in desired outcomes.